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SHAUGHNESSY NO.

REVIEW NO.

EEB REVIEW

DATE: IN 8/14/85 OUT OCT 30 1985

FILE OR REG. NO. 618-0L

PETITION OR EXP. PERMIT NO. \_\_\_\_\_

DATE OF SUBMISSION 7/12/85

DATE RECEIVED BY HED 8/12/85

RD REQUESTED COMPLETION DATE 11/29/85

EEB ESTIMATED COMPLETION DATE 11/22/85

RD ACTION CODE/TYPE OF REVIEW 125

TYPE PRODUCT(S): I, D, H, F, N, R, S Miticide

DATA ACCESSION NO(S). \_\_\_\_\_

PRODUCT MANAGER NO. G. LaRocca (15)

PRODUCT NAME(S) Affirm

COMPANY NAME Merck & Company, Inc.

SUBMISSION PURPOSE Proposed full registration of technical  
product for formulating use

SHAUGHNESSY NO.	CHEMICAL & FORMULATION	% A.I.
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

## ECOLOGICAL EFFECTS BRANCH

### REVIEW

#### Avermectin

#### 100 Submission Purpose and Label Information

##### 100.1 Submission Purpose

The registrant, Merck, Sharpe and Dohme Research Laboratories, proposes to register Affirm technical for formulating use.

##### 100.2 Formulation Information

###### Active Ingredient

Abamectin - A mixture of Avermectin A<sub>1a</sub>, 5-0-demethyl-and Avermectin A<sub>1a</sub>, 5-0-demethyl-25-de (1-methylpropyl)25-(1-methylethyl) . . . . . 70%

Inert Ingredients . . . . . 25%  
Related Compounds . . . . . 5%

##### 100.3 Precautionary Labeling

#### ENVIRONMENTAL HAZARDS

This product is toxic to fish and wildlife. Do not discharge into lakes streams, ponds, or public waters unless in accordance with an NPDES permit. For guidance contact your Regional Office of the Environmental Protection Agency.

#### 101 Hazard Assessment

##### 101.1 Discussion

This is a proposal for registration of Affirm technical. As such no intentional application to the environment is expected.

##### 101.2 Likelihood of Adverse Effects to Nontarget Organisms

Avermectin, the ai of Affirm, is highly toxic to birds and mammals. It is very highly toxic to fish and aquatic invertebrates. Avermectin would photodegrade rapidly in the environment.

Exposure to fish and wildlife could occur through spillage and industrial discharge of waste material containing Avermectin. Exposure of this nature would likely cause local acute mortality. However, this type of exposure should not occur regularly and would not result in unreasonable adverse effects. Chronic effects are not expected because of the rapid photodegradation.

#### 101.3 Endangered Species

No effects to endangered species are expected because avermectin is not persistent and does not bioaccumulate. The likelihood of exposure to endangered species during manufacturing is minimal.

#### 101.4 Adequacy of Data

The six basic studies, necessary for registering Affirm technical, have been submitted and validated as core.

#### 101.5 Adequacy of Labeling

The environmental hazards labeling should read:

This pesticide is toxic to fish and wildlife. Do not discharge effluent containing this product into lakes, streams, ponds, estuaries, oceans, or public water unless this product is specifically identified and addressed in an NPDES permit. Do not discharge effluent containing this product into sewer systems without previously notifying the sewage treatment plant authority. For guidance contact your State Water Board or Regional Office of the EPA.

#### 102 Conclusions

EEB has completed a full risk assessment (3 (c)(5) finding) of the proposed registration of Affirm technical as a formulating product. Based on available data and use information EEB concludes that the proposed use provides for minimal hazards to nontarget organisms.

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